

(12) UK Patent Application

(19) GB (11) 2 229 083⁽¹³⁾ A

(43) Date of A publication 19.09.1990

(21) Application No 8906010.7

(22) Date of filing 16.03.1989

(71) Applicant
John Quarmby & Son Ltd

(Incorporated in the United Kingdom)

Britannia Road, Milnsbridge, Huddersfield,
West Yorkshire, United Kingdom

(72) Inventor
John Gorman

(74) Agent and/or Address for Service
D.A. Lister & Co
5, Greenway, Honley, Huddersfield, West Yorks,
United Kingdom

(51) INT CL³
A47G 23/03 23/032, B32B 5/18

(52) UK CL (Edition K)
A4A APA ATS ATS14 ATS17
B5N N0518 N195 N196 N207 N21Y N223 N225
N247 N255 N257 N259 N263 N2708 N2730 N2732
N2740 N295 N297 N46X N519 N52Y N566 N567
N569 N57X N58X N58Y N589 N594 N595 N596
N601 N787
U1S S1221

(56) Documents cited
GB 1053906 A GB 0956167 A GB 0238006 A

(58) Field of search
UK CL (Edition J) A4A APA ATS, B5N
INT CL³ A47G, B32B
Online: WPI (DIALOG)

(54) Mat or coaster

(57) A protective mat or coaster consists of a laminate having an upper transparent or translucent layer (14) of polyvinyl chloride plastics sheet material which is secured by adhesive to a lower layer (16) of closed cell or semi-closed cell polyurethane foam material. Printed matter is applied by a reverse printing process to the internal surface of the upper layer so as to be visible from the upper surface of the mat or coaster. The mat or coaster can also include an intermediate layer (20) of a high impact polystyrene material between the upper and lower layers to provide additional strength.

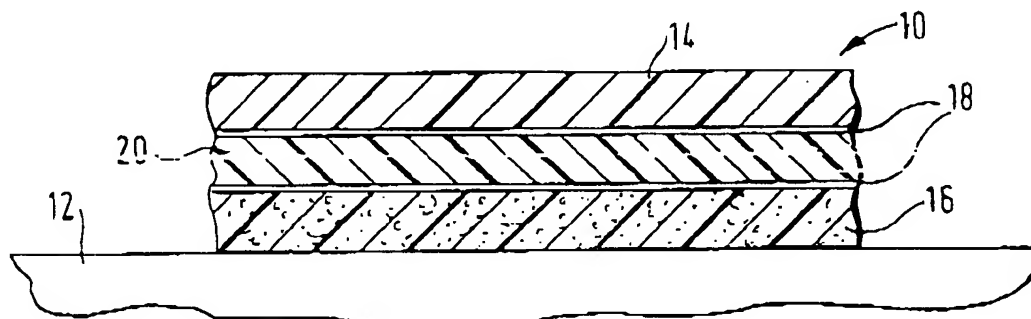
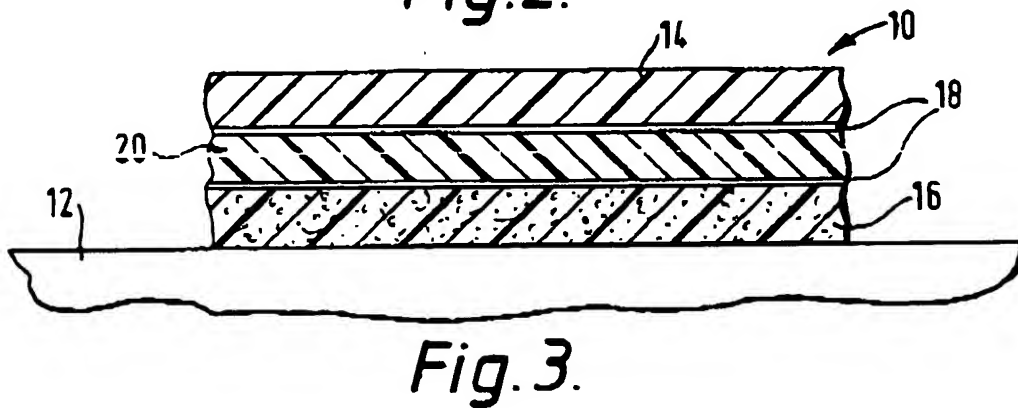
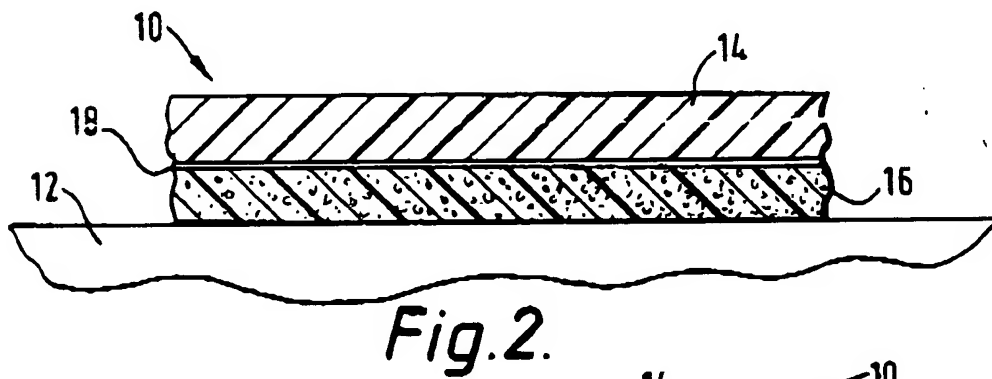
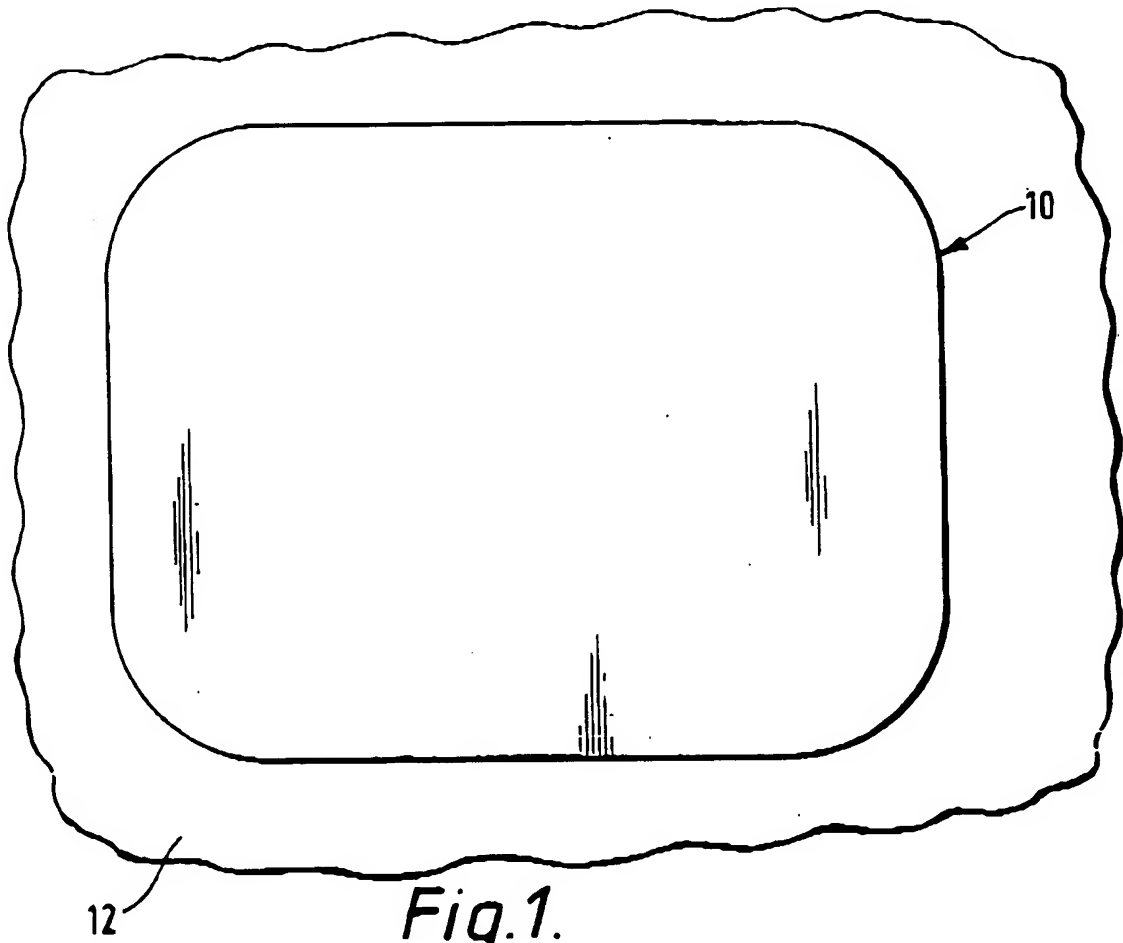


Fig. 3.



"Improvements in or relating to protective mats"

This invention relates to protective mats and more particularly, but not exclusively, to protective mats such as coasters.

Conventional protective mats or coasters such as
5 beer mats are normally provided to afford protection to a surface on which articles are placed, particularly where the surface has a polished finish which could be damaged or stained by the spillage of liquids.

In addition, it is usual to provide such mats with a
10 decorative appearance or to incorporate thereon advertising material in the form of trade marks or trade names.

One well known form of protective mat is formed from sheets of paper card material cut to the desired shape and
15 provided with printed matter on one or both sides thereof. This type of mat is frequently utilised as a beer mat and suffers from the disadvantage that it absorbs moisture and quickly becomes saturated with spillages bringing the moisture into contact with the surface which is to be
20 protected. Furthermore, the printed material on such mats is printed on the surface thereof and is thus easily damaged and this disadvantage together with the tendency of such mats to absorb moisture, give them only a limited useful working life.

25 In order to extend the useful working life thereof, protective mats have also been formed from plastic sheet

material. Although this type of mat overcomes some of the disadvantages of the mats formed from paper card material, it is found such plastic mats suffer from the disadvantage that they are prone to slide on smooth
5 surfaces and are thus easily displaced from the area of the surface which they are to protect.

In an attempt to overcome this disadvantage, plastic mats of the above type have been provided with a backing layer of open cell foam plastics material. However, it is
10 found this backing layer, not only tends to absorb and become saturated with liquid where spillage occurs bringing the liquid into contact with the surface which is to be protected, but also, it is readily friable which again limits the useful working life of the mat.

15 The object of this invention is to provide a protective mat or coaster having an increased useful working life and in which the above disadvantages of known mats are overcome or alleviated.

According to this invention, a protective mat or
20 coaster is formed of a laminate comprising an upper layer of sheet plastics material and a lower layer of closed cell or semi-closed cell foam plastics sheet material.

Preferably, the plastics material forming the upper layer is a polyvinyl plastic material.

25 Preferably, also, the polyvinyl plastic material is polyvinyl chloride.

The foam plastics material forming the lower layer is, preferably, a closed cell or semi-closed cell polyurethane material.

5 Preferably, an intermediate layer of rigid plastics material is disposed between the upper and lower layers.

Preferably, also, the intermediate layer is formed of a thermo-plastic material.

The thermo-plastic material is, preferably, a high impact polystyrene material.

10 Preferably, the material forming the upper layer is transparent or translucent material

Preferably, also, printed matter is disposed on the internal surface of the upper layer.

The printed matter is, preferably, applied by a
15 reverse printing process.

Preferably, the upper layer, the lower layer and/or the intermediate layer are secured together by adhesive.

Preferred embodiments of this invention will now be described by way of example only with reference to the
20 accompanying drawings of which :-

Figure 1 is a plan view of a protective mat or coaster,

Figure 2 is a section through part of one embodiment of the protective mat or coaster to an enlarged scale; and

25 Figure 3 is a section through part of another embodiment of the protective mat or coaster to an

enlarged scale.

Referring now to Figures 1 and 2 of the drawings, one embodiment of a protective mat or coaster indicated generally at 10 for use in protecting a surface 12

5 comprises an upper layer 14 of a transparent or translucent polyvinyl chloride plastics sheet material.

Printed matter, such as, a decorative pattern, trade mark, trade name, or other advertising matter (not shown), is applied to the internal surface of the upper
10 layer 14 by a reverse printing process so that the printed matter is visible when viewing the upper surface of the upper layer 14 of the protective mat or coaster 10. The application of the printing to the internal surface of the upper layer 14 of the protective mat or coaster 10 makes
15 the printing less vulnerable to damage thereby prolonging the life thereof.

A lower layer 16 of closed cell or semi-closed cell polyurethane foam material is secured to the upper layer 14 by a film 18 of adhesive. The closed or semi-closed
20 cell polyurethane foam material has a relatively smooth surface finish and an improved resistance to friability or crumbling in comparison to open cell foam materials thereby again prolonging the useful working life of the protective mat or coaster 10.

25 In addition, the closed cell or semi-closed cell polyurethane foam material is less prone to absorbing

moisture than open cell foam materials thus affording improved protection for the surface 12 when liquids are spilled onto the mat or coaster 10.

It is also found that despite having a smoother surface finish than open cell foam materials, the closed cell or semi-closed cell polyurethane foam material of the lower layer 16 has an improved conformability capability. Consequently, when an article is placed on the mat or coaster 10 applying a load and pressure thereon, the lower layer 16 conforms closely to the shape of the surface 12, excluding air from beneath the mat or coaster 10, and causing the mat or coaster 10 to adhere securely to the surface 12 and resist relative sliding movement therebetween.

Referring now to Figures 1 and 3 of the drawings, in another embodiment the protective mat or coaster 10 comprises upper and lower layers 14 and 16 of the same construction and properties as described above with reference to said one embodiment of this invention and also includes an intermediate layer 20.

The intermediate layer 20 is secured to the upper and lower layers 14 and 16 by films of adhesive 18 and said layer 20 is formed of a high impact thermo-plastic material such as high impact polystyrene.

The intermediate layer 20 of polystyrene provides additional strength and when the upper layer 14 of

polyvinyl chloride is deformed due to the application of an impact loading with a sharp object, the existence of the intermediate layer 20 is found to improve the elastic recovery of the polyvinyl chloride of the upper layer 14
5 thus prolonging the useful working life of the protective mat or coaster 10.

In addition, the intermediate layer 20 enhances the heat and/or vibration insulation properties of the protective mat or coaster 10 thereby improving the
10 protection afforded to the surface 12.

Although the protective mat or coaster is particularly suitable for use in affording protection to surfaces such as tables or bar tops when glasses or the like are rested thereon, it will be appreciated the
15 protective mat can be used in a multiplicity of other applications, such as, on desk tops beneath for example office equipment, without departing from the scope of this invention.

What we claim is:-

1. A protective mat or coaster which is formed of a laminate comprising an upper layer of sheet plastics material and a lower layer of closed cell or semi-closed
5 cell foam plastics sheet material.
2. A protective mat or coaster according to Claim 1, wherein the plastics material forming the upper layer is a polyvinyl plastic material.
3. A protective mat or coaster according to Claim 2,
10 wherein the polyvinyl plastic material is polyvinyl chloride.
4. A protective mat or coaster according to any one of the preceding claims, wherein the foam plastics material forming the lower layer is a closed cell or semi-closed
15 cell polyurethane material.
5. A protective mat or coaster according to any one of the preceding claims, wherein an intermediate layer of rigid plastics material is disposed between the upper and lower layers.
- 20 6. A protective mat or coaster according to Claim 5, wherein the intermediate layer is formed of a thermo-plastic material.
7. A protective mat or coaster according to Claim 6, wherein the thermo-plastic material is a high impact
25 polystyrene material.
8. A protective mat or coaster according to any one of

the preceding claims, wherein the material forming the upper layer is a transparent or translucent material

9. A protective mat or coaster according to Claim 8, wherein printed matter is disposed on the internal surface
5 of the upper layer.

10. A protective mat or coaster according to Claim 9, wherein the printed matter is applied by a reverse printing process.

11. A protective mat or coaster according to any one of
10 the preceding claims, wherein the upper layer and the lower layer are secured together by adhesive.

12. A protective mat or coaster according to any one of the preceding claims and Claim 5, wherein the upper layer, the lower layer and the intermediate layer are
15 secured together by adhesive.

13. A protective mat or coaster constructed, arranged and adapted to operate substantially as hereinbefore described with reference to, and as illustrated by, the accompanying drawings.